

Claim, Evidence and Reasoning Statement

- **Claim:** statement or conclusion about a problem or question
- **Evidence:** scientific data that supports the claim
- **Reasoning:** justification that links the claim and the evidence together, showing why the data count as evidence to support the claim by using the appropriate scientific ideas or principals

Model and Practice Scientific Explanation

- Model the behaviors of a scientist and model how to analyze the data using the framework
- Create opportunities for students to practice via the daily sponge by providing relevant practice data sets for students to analyze, make a claim and support with evidence OR by providing a claim and evidence statement and students describe the data set that the evidence would require
- Make connections between everyday discourse and science discourse

Claim-Evidence-Reasoning Statement

Focus Question

CLAIM: A statement that answers the original focus question or problem.

What conclusion can you make about your original focus question or problem?

EVIDENCE: Scientific data that supports the claim. The data needs to be appropriate and sufficient to support the claim.

What data or observations do you have to support your claim?

REASONING: A justification that links the claim and evidence and includes appropriate and sufficient scientific principles to defend the claim and evidence.

How does the data you used for evidence support your claim?

Claim-Evidence-Reasoning Statement

An Example from Chemical Interactions

Following Investigation 3

Focus Question

Does air always take up the same amount of space?

CLAIM: A statement that answers the original focus question or problem.

What conclusion can you make about your original focus question or problem?

Air does not always take up the same amount of space. Air can be compressed into a smaller space or can expand into a larger space. .

EVIDENCE: Scientific data that supports the claim. The data needs to be appropriate and sufficient to support the claim.

What data or observations do you have to support your claim?

When our group trapped air in a syringe with a clamp we could press down on the plunger to make the amount of space that the air took up smaller. We were also able to pull the plunger back up to allow the air to take up more space.

REASONING: A justification that links the claim and evidence and includes appropriate and sufficient scientific principles to defend the claim and evidence.

How does the data you used for evidence support your claim?

The air in the syringe is made of particles that have nothing in between them. Since the air is trapped in the syringe the number of particles stays the same and can't change. The space between the air particles gets closer together when the plunger compresses the air. When the plunger is pulled out, the space between the air particles increases and the space the air takes up expands.

Claim, Reasoning and Evidence Statement Rubric

Component	Level		
	0	1	2
Claim – statement or conclusion that answers the original question/problem.	Does not make a claim, or makes an inaccurate claim.	Makes an accurate but incomplete claim.	Makes an accurate and complete claim.
Evidence – scientific data that supports the claim. The data needs to be appropriate and sufficient to support the claim.	Does not provide evidence, or only provides inappropriate evidence (Evidence that does not support the claim.).	Provides appropriate, but insufficient evidence to support claim. May include some inappropriate evidence.	Provides appropriate and sufficient evidence to support claim.
Reasoning – justification that links the claim and evidence and includes appropriate and sufficient scientific principals to defend the claim and evidence.	Does not provide reasoning, or only provides recording that does not link evidence to claim.	Repeats evidence and links it to some scientific principles, but not sufficient.	Provides accurate and complete reasoning that links evidence to claim. Includes appropriate and sufficient scientific principles.